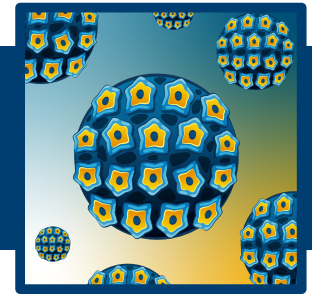


Student Directions

UNIT: GOING VIRAL!

LESSON 1: SILENT SABOTAGE

Activity 1A: Decoding the Virus Cycle



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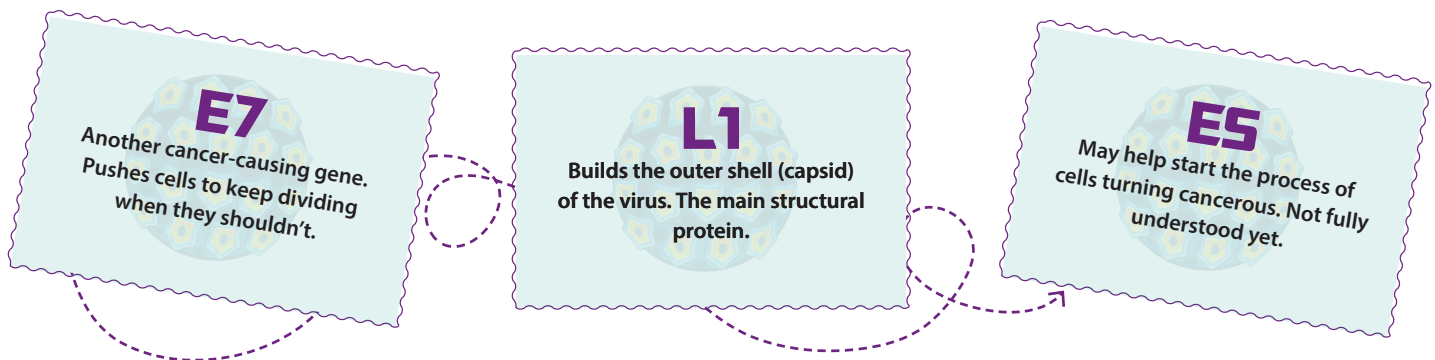
Activity Overview

During this activity, you will evaluate the virus replication cycle. Collaborating with your team, you will decipher where the viral gene belongs in the virus replication cycle. You will analyze a graph and table to organize the cycle into four categories: infect, replicate, assemble, and release.



Directions

1. Each group will receive a set of virus cycle cards and a graphic organizer.
2. In your team, discuss the descriptions on each card.
3. Use the HPV16 genome diagram (Figure 2) and the Decoding Viral Genome Table (Table 1) to arrange the cards on the graphic organizer.
4. Reach a consensus on where each card fits into the virus replication cycle.
5. Be prepared to participate in a class discussion addressing the following questions:
 - f. What cards went under each category?
 - g. Why did your group place that card there (keywords)?
 - h. Do we have a class consensus?



MIDDLE & HIGH SCHOOL LEVEL

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Student Directions

UNIT: GOING VIRAL! LESSON 1: SILENT SABOTAGE Activity 1A: Decoding the Virus Cycle

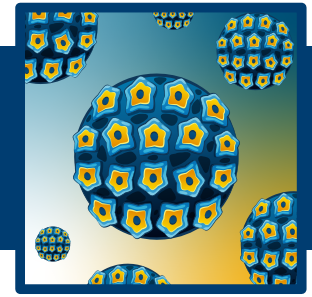


Figure 2: HPV 16 Genome Diagram

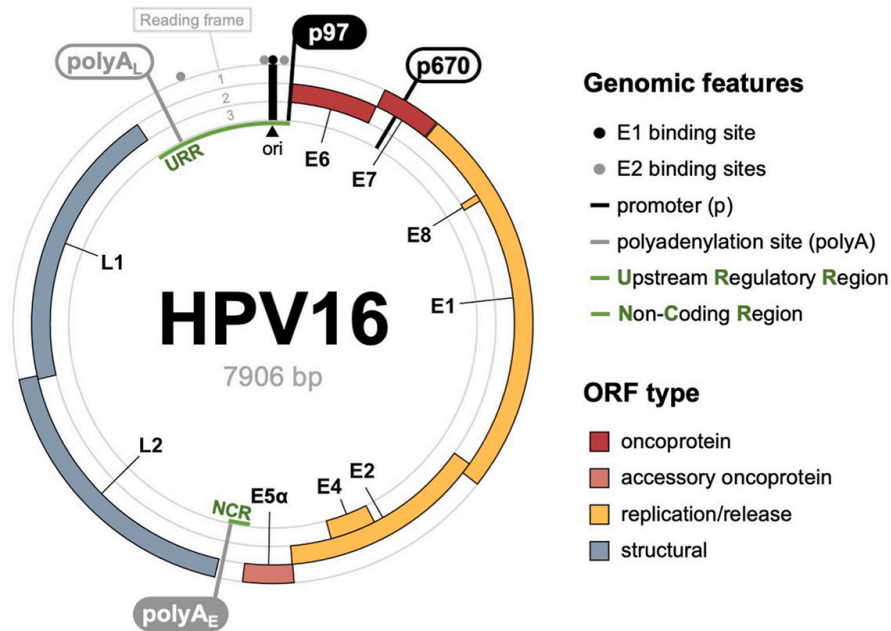


Table 1: Functions from Article Table 1 Translated into Plain Language

Expression	Functions	
Early	E1	Acts like a DNA “unzipper” to unbind DNA and recruits DNA polymerase to help the virus copy its own DNA.
	E2	Helps start viral DNA copying by supporting E1. Controls which virus genes get turned on or remain off.
	E4	Found in skin cells. Helps the virus get out of the cell after it finishes making copies.
	E5	May help start the process of cells turning cancerous. Not fully understood yet.
	E6	A cancer-causing gene. It helps shut off the p53 “guardian” protein, which normally protects cells from turning cancerous. Without p53 protein, the cells keep dividing.
	E7	Another cancer-causing gene. Pushes cells to keep dividing when they shouldn’t.
Late	L1	Builds the outer shell (capsid) of the virus. The main structural protein.
	L2	Also helps build the virus shell. Works with L1 but is a smaller part.

MIDDLE & HIGH SCHOOL LEVEL

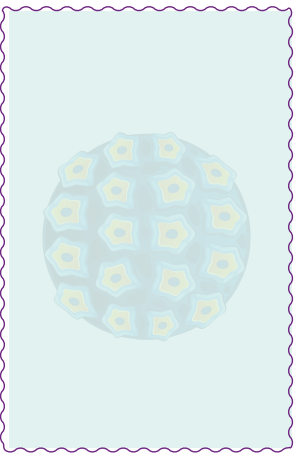
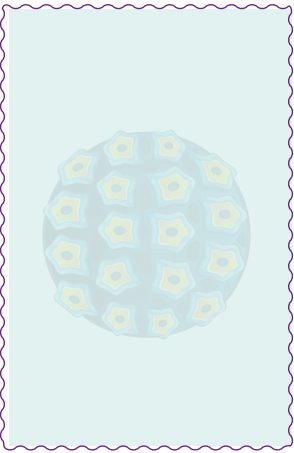
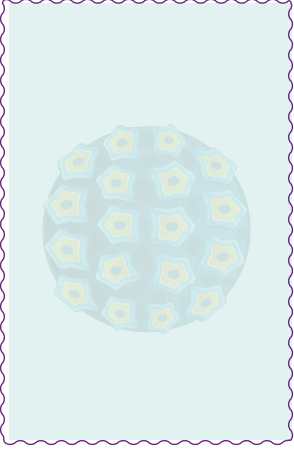
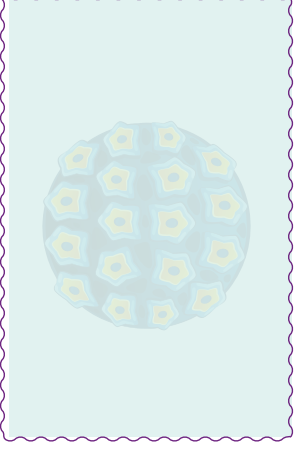
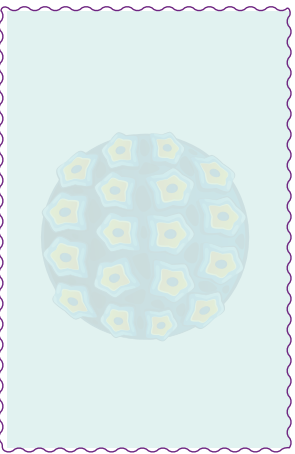
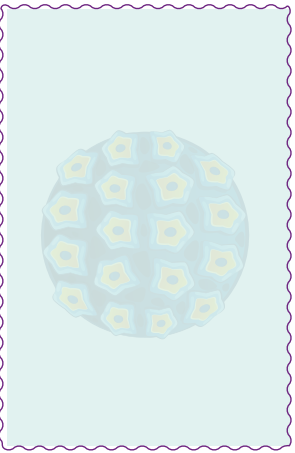
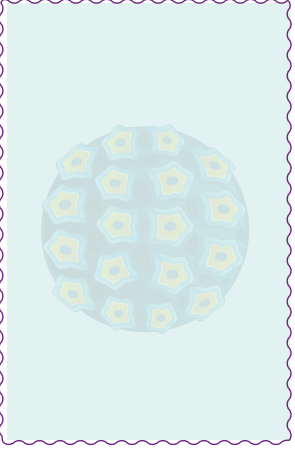
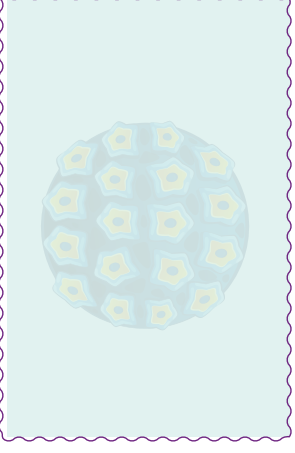
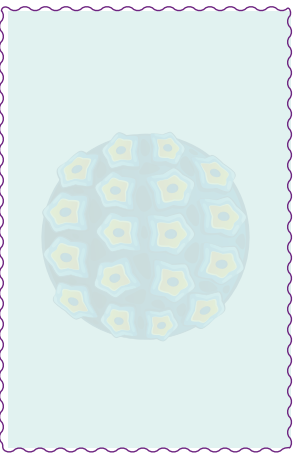
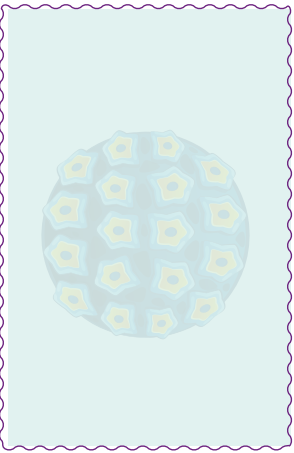
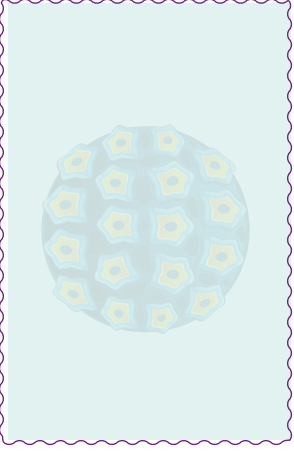
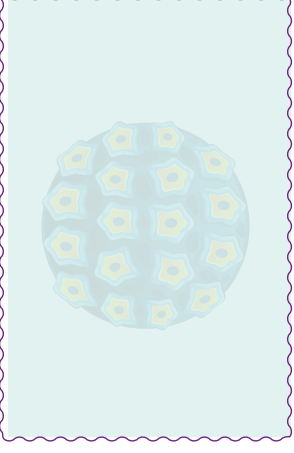
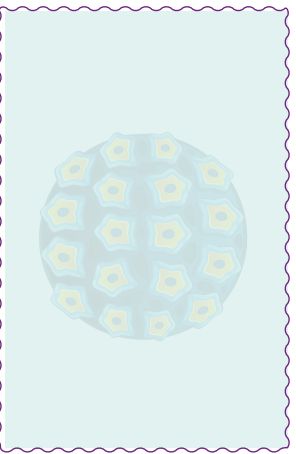
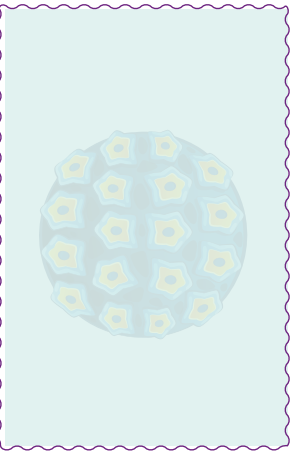
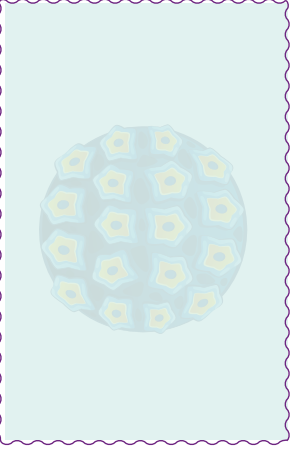
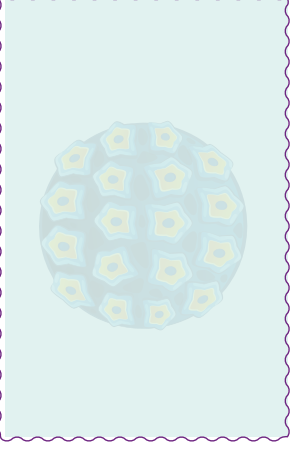
VIRUS CYCLE ORGANIZER

INFECT

REPLICATE

ASSEMBLE

RELEASE

MIDDLE & HIGH SCHOOL LEVEL

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